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9 IN THE UNITED STATES DISTRICT COURT  
10 FOR THE NORTHERN DISTRICT OF CALIFORNIA  
11  
12

13 **UNITED STATES OF AMERICA,**

14 Plaintiff,

15 v.  
16

17 **PACIFIC GAS AND ELECTRIC  
COMPANY,**

18 Defendant.  
19

3:14-cr-00175-WHA

**SUPPLEMENTAL RESPONSE OF THE  
CALIFORNIA DEPARTMENT OF  
FORESTRY AND FIRE PROTECTION  
FOLLOWING JANUARY 30, 2019,  
HEARING ON ORDER TO SHOW  
CAUSE**

**CAL FIRE'S INFORMATIONAL RESPONSE TO REQUESTS FOR INFORMATION  
AT JANUARY 30, 2019, HEARING**

On January 30, 2019, the Court requested that the California Department of Forestry and Fire Protection (CAL FIRE) submit a supplemental response addressing the Court's question whether California Public Resources Code section 4293 (Section 4293) mandates trimming of tree limbs that overhang powerlines. Specifically, the Court stated that "it is very important to know whether overhanging trees that are hazards are covered or not." Transcript of Jan. 30, 2019, at p. 118:2-6.

As discussed in more detail below, Section 4293 requires that utilities "maintain a clearance of the respective distances which are specified in this section in all directions between all vegetation and all conductors which are carrying electric current." This mandate requires utilities to remove overhanging tree limbs that are within the applicable clearance area. Section 4293 also requires that utilities trim or remove certain hazardous trees or limbs that may contact the lines from the side or fall on the lines. Whether a healthy tree or limb may contact the line from the side or fall on the line, and thus whether the tree or limb is a hazard, depends on the factual circumstances specific to that tree or limb. CAL FIRE has adopted regulations and guidelines to maximize fire prevention efforts and provide guidance to utilities and inspectors regarding implementation of fire prevention requirements. Similarly, the California Public Utilities Commission (CPUC) has adopted General Order 95 (GO 95) to direct the utility's conduct in specific instances where vegetation management can reduce risk. Further, inspectors must use their professional judgment as to whether a tree or limb may contact a line from the side or fall on a line. Consistent with this authority, CAL FIRE looks to the specific circumstances to determine, on a case-by-case basis, whether failure to trim particular overhanging limbs merits finding a violation of that statute.

CAL FIRE provides this submission in an effort to assist the Court. In providing the Court with the requested response, as a non-party to this proceeding, CAL FIRE intends to preserve and does not waive its, or any other state agency's, Eleventh Amendment immunity. Because the California Constitution creates a structure of divided executive power, each agency of the State



1 acts on behalf of the State within its own statutory and regulatory authority. *See Marine Forests*  
 2 *Soc. v. Cal. Coastal Comm'n*, 36 Cal. 4th 1, 31 (2005); *People ex rel. Lockyer v. Superior Court*,  
 3 19 Cal. Rptr. 3d 324, 337-39 (Cal. Ct. App. 2004). CAL FIRE's response is, thus, made solely on  
 4 its own behalf, and this submission reflects the views of CAL FIRE alone and not any other state  
 5 agency.

#### 6 **I. THE OPERATION OF PUBLIC RESOURCES CODE SECTION 4293**

7 Section 4293 is part of Division 4 of the California Public Resources Code. Division 4  
 8 contains provisions addressing a wide variety of fire hazards. Section 4293<sup>1</sup> requires owners and  
 9 operators of powerlines to do two things: (1) maintain an area free of vegetation around the lines,  
 10 and (2) trim or remove certain hazardous trees or portions thereof that may contact the lines from  
 11 the side or fall on the lines regardless of whether they are outside of the statutory clearance  
 12 distances.<sup>2</sup>

13 Regulations implementing the statute provide that Section 4293 applies only during CAL  
 14 FIRE's declared fire season, and only in "mountainous land, forest covered land, brush covered  
 15 land or grass covered land within State Responsibility Areas." Cal. Code Regs. tit. 14, §§ 1252,  
 16 1253. State Responsibility Areas are "lands within the state . . . in which the financial  
 17 responsibility of preventing and suppressing fires is primarily the responsibility of the state." Cal.  
 18 Pub. Res. Code § 4125(a); *see also* Cal. Pub. Res. Code § 4126. Federally owned lands, certain  
 19 lands within city boundaries, and lands otherwise not described in California Public Resources  
 20 Code section 4126, are excluded from State Responsibility Areas and so are not governed by

21 <sup>1</sup> In 1963, the California Legislature declared that "the unrestricted use of grass-, grain-,  
 22 brush-, or forest-covered land within the State is a potential menace to life and property from fire  
 23 and resulting erosion . . . [and] that no objective evaluation of the needs of fire suppression forces  
 24 can be made until full utilization of every approach to prevent fires from occurring has been  
 25 accomplished." 1963 Cal. Stat. 4257, attached hereto as Exhibit 1 for the Court's convenience.  
 To address this concern, and "as an aid for facilitating fire prevention and fire prevention law  
 enforcement," the Legislature enacted, among other statutes, Public Resources Code section  
 4107, the predecessor to Section 4293. 1963 Cal. Stat. 4257, 4260. In 1965, former Public  
 Resources Code section 4107 was repealed and re-enacted, without substantial change, at Section  
 4293.

26 <sup>2</sup> A utility's compliance with Section 4293 is mandatory, not discretionary. Section 4293  
 27 requires that owners and operators of powerlines "shall" maintain specified clearance distances,  
 and "shall" fell, cut, or trim hazardous trees "which may contact the line from the side or may fall  
 28 on the line." Cal. Pub. Res. Code § 4293. As used in California's Public Resources Code,  
 "[s]hall is mandatory and 'may' is permissive." Cal. Pub. Res. Code § 15.

1 Section 4293. Cal. Pub. Res. Code § 4127. Approximately two-thirds of California land falls  
2 outside of State Responsibility Areas.

3 Additionally, pursuant to its authority to regulate public utilities, the CPUC issued GO 95 to  
4 provide uniform requirements for construction, operation, and use of overhead electrical  
5 transmission and distribution lines. Rule 35 of GO 95 requires, among other things, that: “When  
6 a supply or communication company has actual knowledge . . . that dead, rotten or diseased trees  
7 or dead, rotten or diseased portions of otherwise healthy trees overhang or lean toward and may  
8 fall into a span of supply or communication lines, said trees or portions thereof should be  
9 removed.” Rule 35 is similar to, and complements, Section 4293. Indeed, unlike Section 4293,  
10 Rule 35 applies both inside and outside of State Responsibility Areas. However, Rule 35 does  
11 not purport to affect the scope or interpretation of Section 4293.

12 **A. Clearance Distance Requirements**

13 Section 4293 first requires that owners and operators of powerlines maintain a clearance  
14 within specified distances, which vary from four feet to ten feet, depending on the powerline’s  
15 voltage. “In every case, such distance shall be sufficiently great to furnish the required clearance  
16 at any position of the wire, or conductor when adjacent air temperature is 120 degrees Fahrenheit,  
17 or less.” *Id.* This portion of Section 4293 requires that any tree limb overhanging a powerline be  
18 trimmed or removed if it is closer to the powerline than the required clearance distance.

19 **B. Requirements to Fell, Cut, or Trim Hazardous Trees**

20 Outside of those specified clearance distances, Section 4293 also provides that trees or  
21 limbs that may come into contact with lines shall be treated to remove the hazard. Specifically,  
22 Section 4293 requires that “[d]ead trees, old decadent or rotten trees, trees weakened by decay or  
23 disease and trees or portions thereof that are leaning toward the line which may contact the line  
24 from the side or may fall on the line shall be felled, cut, or trimmed so as to remove such hazard.”  
25 This means that a tree, or portion thereof, that is leaning toward the line, must be “felled, cut, or  
26 trimmed,” regardless of its health, if it “may contact the line from the side or may fall on the  
27 line.” *Id.* Section 4293 requires utilities to identify and remove such hazards.



1 This does not mean that Section 4293 requires trimming or removing every healthy limb  
 2 that hangs over a powerline. Whether a tree or limb may contact the line from the side or fall on  
 3 the line, and thus whether the tree or limb is a hazard, depends on the factual circumstances  
 4 specific to that tree or limb.

## 5 **II. CAL FIRE'S APPLICATION OF SECTION 4293**

6 As explained above, utilities are ultimately responsible for maintaining safe conditions  
 7 pursuant to Section 4293. In conducting its own inspections, CAL FIRE looks to the specific  
 8 circumstances to determine, on a case-by-case basis, whether failure to trim particular  
 9 overhanging limbs merits finding a violation of the statute.<sup>3</sup> CAL FIRE considers, among other  
 10 things, the health of the tree or limb, but a tree or limb need not be unhealthy to trigger Section  
 11 4293's requirements. CAL FIRE's overarching goal is to minimize the risk of catastrophic  
 12 wildfire.

13 CAL FIRE published, in 2008, a Power Line Fire Prevention Field Guide (the Field Guide)  
 14 in conjunction with several California electric utilities.<sup>4</sup> The Field Guide does not identify an  
 15 exclusive list of potentially hazardous conditions; rather, it is intended to guide an inspector's  
 16 professional judgment. It notes: "In applying guidelines and standards, an inspector should  
 17 always bear in mind the fact that in areas with trees, whether natural or planted, the presence of  
 18 power lines introduces a degree of risk. The goal of the inspector and the electric utility is to  
 19 mitigate that risk in order to prevent fires, with sound judgment and experience[.]" Exh. 2 at p. 1-  
 20 20.

21 Many of the hazards identified in the Field Guide relate to the health of a tree or its limbs,  
 22 including whether the tree or its limbs are decayed or cracked, or have root defects. The Field  
 23 Guide states that, "[e]xcept in unusual circumstances (extreme weather conditions, etc.), healthy  
 24 live trees seldom" damage powerlines. Exh. 2 at p. 1-20. However, the Field Guide also  
 25 identifies leaning trees as potential hazards when failure of the tree could result in contact with

26 <sup>3</sup> "The director or the agency which has primary responsibility for the fire protection of  
 27 such areas may permit exceptions from the requirements of this section which are based upon the  
 specific circumstances involved." Cal. Pub. Res. Code § 4293.

28 <sup>4</sup> For the Court's convenience, CAL FIRE has attached to this brief as Exhibit 2 a copy of  
 relevant excerpts from the Field Guide.

1 utility equipment. *Id.* As to tree limbs, the Field Guide states that they may be hazardous as a  
 2 result of health defects or as a result of the limb's weight in conjunction with the forces of wind,  
 3 snow, ice, and rain. Exh. 2 at p. 1-22. Thus, as described in the Field Guide, determining  
 4 whether a particular limb or tree may come into contact with a line requires the use of judgment  
 5 based on the particular circumstances encountered during the inspection. In its enforcement  
 6 activities in the field, CAL FIRE's personnel often rely on the Field Guide and focus on the  
 7 hazards specifically identified therein.<sup>5</sup>

8 Additionally, CAL FIRE has, in fire suppression cost recovery litigation<sup>6</sup>, identified live,  
 9 healthy trees or overhanging limbs as violations of Section 4293. A recent example is the 2015  
 10 Butte Fire, in which a living, green tree leaned toward, and eventually contacted, a powerline  
 11 owned and operated by PG&E. Other examples include, but are not limited to, the 2010 Curry  
 12 Fire, the 2007 Circle Fire, and the 2006 Napa 2 Fire, all of which were fires that CAL FIRE  
 13 determined were caused by contact between PG&E powerlines and overhanging tree limbs that  
 14 PG&E contended appeared to be living and healthy, and thus, not subject to trimming. In each of  
 15 the four cases noted above, a tree or a limb could and did contact the line, and the identifiable  
 16 hazard should have been removed to prevent that contact and the resulting fire. The text of  
 17 Section 4293, CAL FIRE's application of it in specific circumstances, and the mandate the statute  
 18 imposes on utilities, all further the overarching goal of the Legislature and CAL FIRE to  
 19 minimize the risk of catastrophic wildfire.

## 20 CONCLUSION

21 As reflected above, Section 4293 mandates that utilities trim or remove limbs overhanging  
 22 powerlines if those limbs are inside the statutory clearance distances. Section 4293 also mandates  
 23 that utilities trim or remove, among other hazards, trees or portions thereof that are leaning

24  
 25 <sup>5</sup> In its Foreword, the Field Guide cautions that, "regardless of the inferences that any  
 26 reader may draw from any statement in this Guide, the law must be obeyed." Exh. 2 at p. 1-1.  
 The Field Guide further confirms that, "if there is any conflict between any statement in this  
 Guide and any applicable statute, regulation or order, the statute, regulation or order shall take  
 precedence." *Id.*

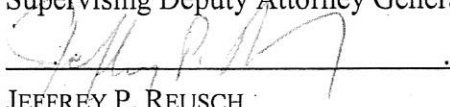
27 <sup>6</sup> Fire cost recovery actions incentivize fire prevention and compliance with fire  
 28 prevention laws. *Ventura County v. Southern Cal. Edison Co.*, 193 P.2d 512, 519 (Cal. Ct. App.  
 1948).

1 toward the powerlines, including overhanging limbs, if those trees or limbs may contact the line  
2 from the side or fall on the line. CAL FIRE appreciates the Court's further invitation to provide  
3 information to assist the Court's evaluation of the issues presented in this matter.  
4

5 Dated: February 6, 2019

Respectfully Submitted,

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# EXHIBIT 1



ice, two or more counties, shall first have established one or more of the facilities or services, provided for herein, in compliance with rules and regulations adopted by the State Department of Mental Hygiene under Section 9054.

Such inservice training as may be necessary in providing the foregoing services shall be proper items of expenditure in connection therewith.

Sec. 3. Section 9036 of said code is amended to read:

9036. Expenditures subject to reimbursement shall include expenditures for the items specified in Section 9031; salaries of personnel; approved facilities and services provided through contract; operation, maintenance and service costs; expenses incurred under this act by members of the California Conference of Local Health Officers or members of the Conference of Local Directors of Mental Health Services for attendance at regular meetings of such conferences; and such other expenditures as may be approved by the Director of Mental Hygiene. It shall not include expenditures for capital improvements; the purchase or construction of buildings except for such equipment items and remodeling expense as may be provided for in regulations of the Department of Mental Hygiene; compensation to members of a local mental health advisory board (except actual and necessary expenses incurred in the performance of official duties); or expenditures for a purpose for which state reimbursement is claimed under any other provision of law.

Sec. 4. Section 9037 of said code is amended to read:

9037. Reimbursement shall not be made for expenditures for treatment services furnished to patients who are able to obtain private care.

Sec. 5. Section 9038 of said code is repealed.

Sec. 6. Section 9054 of said code is amended to read:

9054. The State Department of Mental Hygiene shall administer this division and shall adopt standards for approval of local mental health services, rules and regulations necessary thereto; provided, however, that such standards, rules and regulations shall be adopted only after consultation with and approval by the California Conference of Local Mental Health Directors. Approval of such standards, rules and regulations shall be by majority vote of those present at an official session.

If the conference refuses or fails to approve standards, rules, or regulations submitted to it by the department for its approval, the department may submit such standards, rules, or regulations to the conference at its next semiannual meeting, and if the conference again refuses to approve them, the standards, rules, or regulations shall take effect immediately, notwithstanding the failure of the conference to approve them.

Sec. 7. This act shall become operative on October 1, 1963.

## CHAPTER 2038

*An act to add Sections 4016, 4017, 4018, 4019, 4100, 4105, 4106, 4107, 4108, 4109, 4110, 4150, 4153.1, 4159.5, 4161.5, 4167, 4169, and 4170 to, add Article 2 (commencing with Section 4051) to Chapter 1 of, and to add Chapter 7 (commencing with Section 4850) and Chapter 10 (commencing with Section 4890) to, Division 4 of, to amend Sections 4105 and 4167 of, 4151, and 4153 of, and to repeal Sections 4105 and 4167 of, the Public Resources Code, to add Chapter 4 (commencing with Section 14500) Part 5, Division 3, Title 2 of the Government Code, to amend Section 13002 of the Health and Safety Code, to add Section 1016 to the Streets and Highways Code, and to add Section 1817 to, and amend Section 23111 of the Vehicle Code, relating to fire prevention and control.*

[Approved by Governor July 23, 1963. Filed with Secretary of State July 26, 1963.]

*The people of the State of California do enact as follows:*

SECTION 1. The Legislature of the State of California hereby finds and declares that the unrestricted use of grass, grain, brush, or forest-covered land within the State is a potential menace to life and property from fire and resulting erosion. It finds further that no objective evaluation of the needs of fire suppression forces can be made until full utilization of every approach to prevent fires from occurring has been accomplished. This act is designed as an aid for facilitating fire prevention and fire prevention law enforcement.

Sec. 2. Section 4016 is added to the Public Resources Code, to read:

4016. The burning of growing, dead, or downed vegetation is for a public purpose if the State Forester has determined that the burning of such vegetation is necessary for the prevention or suppression of forest fires.

Sec. 3. Section 4017 is added to said code, to read:

4017. Except as otherwise provided in this code "person" includes any agency of the State, county, city and county, city, district, or other local public agency, and any individual, firm, association, partnership, business trust, corporation, or company.

Sec. 4. Section 4018 is added to said code, to read:

4018. Counties, cities and counties, cities, and districts may adopt ordinances, rules, or regulations to provide fire prevention restrictions or regulations that are necessary to meet local conditions of weather, vegetation, or other fire hazards. Such ordinances, rules, or regulations may be more restrictive than state statutes in order to meet local fire hazard conditions.

Sec. 5. Section 4019 is added to said code, to read:

4019. Except as otherwise provided, the willful or negligent commission of any of the acts prohibited or the omission of



public land, within the exterior boundaries of any area of not less than 10,000 acres in size, upon which a fire hazard exists due to the presence of flammable material or cover, the State Board of Forestry may designate such area as a "hazardous fire area," and shall declare the period during which the area shall be so designated.

(b) Whenever the State Forester determines that a fire hazard exists in any other area due to the presence of flammable material or cover, he may, by regulation, designate such area to be a "hazardous fire area." Such a regulation shall declare the period during which the area shall be so designated.

Sec. 9. Section 4105 of said code is repealed.

Sec. 10. Section 4105 is added to said code, to read:

4105. Any person who owns, leases, controls, operates, or maintains any building or structure in, upon, or adjoining any mountainous area or forest-, brush-, or grass-covered lands or land covered with flammable material shall at all times do all of the following:

(a) Maintain around and adjacent to such building or structure a firebreak made by removing and clearing away, for a distance of not less than 30 feet on each side thereof or to the property line, whichever is nearer, all flammable vegetation or other combustible growth. This subdivision does not apply to single specimens of trees, ornamental shrubbery, or similar plants which are used as ground cover, provided that they do not form a means of rapidly transmitting fire from the native growth to any building or structure.

(b) Maintain around and adjacent to any such building or structure additional fire protection or firebreak made by removing all brush, flammable vegetation, or combustible growth which is located from 30 feet to 100 feet from such building or structure or to the property line, whichever is nearer, as may be required by the State Forester when he finds that because of extra hazardous conditions a firebreak of only 30 feet around such building or structure is not sufficient to provide reasonable fire safety. Grass and other vegetation located more than 30 feet from such building or structure and less than 18 inches in height above the ground may be maintained where necessary to stabilize the soil and prevent erosion.

(c) Remove that portion of any tree which extends within 10 feet of the outlet of any chimney or stovepipe.

(d) Maintain any tree adjacent to or overhanging any building free of dead or dying wood.

(e) Maintain the roof of any structure free of leaves, needles, or other dead vegetative growth.

(f) Every chimney or stovepipe that is attached to any fireplace, stove, or other device that burns any solid or liquid fuel shall be provided and maintained at all times with a screen over the outlet. Such screen shall be constructed of non-flammable material with openings of not more than one-half inch in size.

any of the acts required by Division 4 (commencing with Section 4000) of this code is a misdemeanor.

Sec. 6. Article 2 (commencing with Section 4051) is added to Chapter 1, Division 4 of said code, to read:

#### Article 2. Rubbish Dumps

4051. As used in this article "rubbish dump" means any accumulation for the purpose of disposal of any rubbish, rags, paper, boxes, crates, excelsior, petroleum products or the residue thereof, fallen timber, slash, limb wood, branches, brush, grass, leaves, litter, or other combustible or flammable materials. "Rubbish dump" does not include slash from timber operations or the temporary piling of flammable materials which have accumulated from clearing while the construction or operation is in progress in conjunction with public works, utility, or other industrial projects where such accumulation is located wholly within the exterior limits of such projects.

4052. A person shall not maintain, use or operate any rubbish dump outside of the exterior boundaries of any incorporated city on or after January 1, 1964, without obtaining a special permit from the State Forester and in strict accordance with the terms and conditions prescribed in the special permit. The State Forester may include in the terms of the special permit provisions for the prevention of uncontrolled fire. These terms may include but are not limited to the requirements set forth in Section 4053 of this code. The responsibility for obtaining the special permit for rubbish dumps shall be that of the owner or operator or jointly. Such special permit issued by the State Forester does not relieve such owner or operator from the duty of securing any other permit which is required by law or any rule or regulation.

4053. No rubbish dump shall be maintained or operated, without providing a clearance of flammables for a minimum distance of 150 feet from the periphery of the accumulation of such rubbish dump. If any structure or building is located within 150 feet of the periphery of the accumulation, the area within a minimum of 100 feet of the periphery of the structure or building shall also be maintained clear of all flammables.

4054. Any rubbish dump which is maintained or operated in violation of this article is a public nuisance.

Sec. 7. Section 4100 is added to Article 3, Chapter 1, Division 4 of said code, to read:

4100. As used in this article:

"Hazardous fire area" means any area which is designated by the State Board of Forestry or the State Forester to be a hazardous fire area pursuant to Section 4101.

Sec. 8. Section 4101 of said code is amended to read:

4101. (a) Upon the written petition of the owners or authorize- ents of more than 50 percent of the land, including

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Sec. 11. Section 4106 is added to said code, to read:

4106. Except as otherwise provided in Section 4110, any person who owns, controls, operates, or maintains any electrical transmission or distribution line upon any mountainous land, or forest-, brush-, or grass-covered land shall, during such times and in such areas as are determined to be necessary by the State Forester or the agency having primary responsibility for fire protection thereof, maintain around and adjacent to any pole or tower which supports a switch, fuse, transformer, lightning arrester, line junction, or dead end or corner pole, a firebreak which consists of a clearing of not less than 10 feet in each direction from the outer circumference of such pole or tower, provided, however, that this section does not apply to any line which is used exclusively as telephone, telegraph, telephone or telegraph messenger call, fire or alarm line, or other line which is classed as a communication circuit by the Public Utilities Commission. The State Forester or the agency having primary fire protection responsibility for the protection of such areas may permit exclusions from the requirements of this section based upon the specific circumstances involved.

Sec. 12. Section 4107 is added to said code, to read:

4107. Except as otherwise provided in Sections 4108 to 4110, inclusive, any person who owns, controls, operates, or maintains any electrical transmission or distribution line upon any mountainous land, or in forest-, brush-, or grass-covered land shall, during such times and in such areas as are determined to be necessary by the State Forester or the agency having primary responsibility for the fire protection thereof, maintain a clearance of the respective distances which are specified in this section in all directions between all vegetation and all conductors which are carrying electric current:

- (a) For any line which is operating at 2,400 or more volts, but less than 72,000 volts, four feet.
- (b) For any line which is operating at 72,000 or more volts, but less than 110,000 volts, six feet.
- (c) For any line which is operating at 110,000 or more volts, 10 feet.

In all cases, such distance shall be sufficiently great to furnish the required clearance at any position of the wire, or conductor when the adjacent air temperature is 120 degrees Fahrenheit, or less. Dead trees, old decadent or rotten trees, trees weakened by decay or disease and trees or portions thereof that are leaning toward the line which may contact the line from the side or may fall on the line shall be felled, cut, or trimmed so as to remove such hazard. The State Forester or the agency having primary responsibility for the fire protection of such areas may permit exclusions from the requirements of this section based upon the specific circumstances involved.

Sec. 13. Section 4108 is added to said code, to read:

4108. No clearing to obtain line clearance is required when self-supporting aerial cable is used, except that forked trees,

leaning trees, and any other growth which may fall across the line and break it shall be removed.

Sec. 13.1. Section 4109 is added to said code, to read: 4109. A person is not required by Section 4106 or 4107 to maintain any clearing on any land where such person does not have the legal right to maintain such clearing, nor do such sections require any person to enter upon or to damage property which is owned by any other person without the consent of the owner of the property.

Sec. 13.2. Section 4110 is added to said code, to read: 4110. The provisions of Sections 4106 and 4107 shall not apply where the transmission or distribution line voltage is 750 volts or less.

Sec. 14. Section 4150 is added to Article 5, Chapter 1, Division 4 of said code, to read:

4150. For the purposes of this article, the State is divided into the following two zones:

(a) "Zone A" includes any county and any portion of any county which is south of the Mount Diablo base line, except the counties and the portions of the Counties of Alameda, Calaveras, Contra Costa, Marin, Mariposa, Mono, San Francisco, San Joaquin, Stanislaus, and Tuolumne which are south of such line.

(b) "Zone B" includes any county and portion of any county which is not included in Zone A.

Sec. 15. Section 4151 of said code is amended to read:

4151. A person shall not set fire or cause fire to be set to any forest, brush, or other flammable material which is on any land that is not his own, or under his legal control, without the permission of the owner, lessee, or agent of such land.

Sec. 16. Section 4153 of said code is amended to read:

4153. In those areas of the State which are classified as state responsibility lands for fire protection purposes and in those areas receiving fire protection by the State Forester by contract or upon federal lands administered by the United States Departments of Agriculture or Interior, a person shall not do any of the following, either upon his own land or on the property of another, at any time in Zone A, or in Zone B at any time between April 1st and December 1st of any year, or at any other time in Zone B during any year when the Director of Conservation has declared, by proclamation, that unusual fire hazard conditions exist in the area in which the property is located unless he has a written permit from the State Forester or his duly authorized representative or the authorized federal officer on federal lands administered by the United States Departments of Agriculture or Interior and in strict accordance with the terms of the permit:

- (a) Burn brush, stumps, logs, fallen timber, fallows, slash, or grass, brush-, or forest-covered land, or any other flammable material.
- (b) Blast with dynamite, powder, or other explosives, or blasting agents of any kind in grass, brush, fallows, or forest-

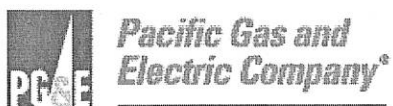
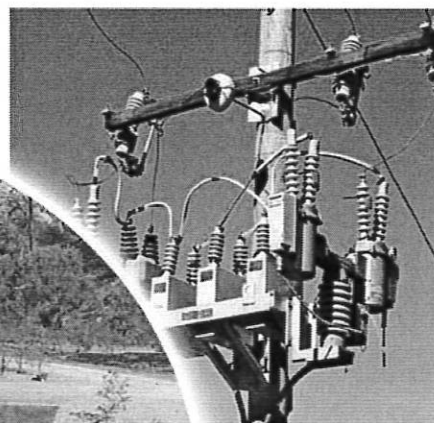


# EXHIBIT 2



# POWER LINE FIRE PREVENTION FIELD GUIDE

2008 EDITION



## **Foreword**

This Guide contains standards, Statutes and regulations that are necessary to minimize wildland fires that may be caused by the operation and maintenance of electrical power lines and energized electrical equipment used in the delivery of electrical power. These standards are based upon the studies and experiences of fire agencies and power line operations personnel, as well as on federal regulations and the laws of the State of California. These standards, statutes and regulations are to be considered minimum guides. Field conditions may indicate the need for efforts beyond these minimums.

Except for sample copies retained for historical or reference purposes, all copies of prior editions should be withdrawn from circulation and destroyed. Moreover, regardless of the inferences that any reader may draw from any statement in this Guide, the law must be obeyed. Thus, if there is any conflict between any statement in this Guide and any applicable statute, regulation or order, the statute, regulation or order shall take precedence. Some of the applicable statutes and regulations are set forth in STATUTES AND REGULATIONS section of this Guide.

It is expected that all personnel who make condition inspections and surveys, inspections of power lines, or who prescribe hazard reduction work or other fire prevention measures will be thoroughly familiar with the contents of this Guide. They should use it, refer to it regularly and observe the principles, practices and guidance included herein.

This Guide was developed as a mutual undertaking by Cal Fire, the Pacific Gas and Electric Company, the Southern California Edison Company, San Diego Gas and Electric and the other electric utilities of California. Its purpose is to provide information and guidance to the personnel of the fire service agencies and electrical operators for minimum uniform application within the areas of their respective jurisdiction and franchise responsibilities. The Guide is not to be used as a substitute for proper training, but as a reference for personnel already familiar with the subject.

This edition of the Guide has been substantially revised not only to reflect changes in laws, regulations, policy and technology, but also to enhance its usefulness as a working field tool. This guide is not intended to dictate to electrical utilities the methods which they must use to construct their facilities. However, this guide does detail fire hazard reduction maintenance procedures for safety of their conductors and for certain items of hardware, in addition to the safety of the public.



## 12. Hazardous Tree Identification

Falling trees or limbs can break conductors, damage poles, towers, other structures and equipment, or cause short circuits on power lines. Except in unusual circumstances (extreme weather conditions, etc.), healthy live trees seldom cause such problems. Yet trees are subject to injury, disease, insect and fungus attacks and ultimately death. When so significantly afflicted, they may become hazardous to power lines or any other improvements.

Most defects are readily apparent to the trained observer. However, some defects cannot be detected with a cursory glance. This chapter describes and illustrates some of the more common tree defects and ways to locate and evaluate them.

In applying guidelines and standards, an inspector should always bear in mind the fact that in areas with trees, whether natural or planted, the presence of power lines introduces a degree of risk. The goal of the inspector and the electric utility is to mitigate that risk in order to prevent fires, with sound judgment and experience

### 12.1 Recognizing Potential Root Defects

- A. Undermined or severed roots caused by erosion or construction activity and roots loosened by saturated soils and winds resulting in 25% or more root exposure.
- B. When grade is altered and 25% or more of the root system and/or the trunk of the tree is buried.
- C. Root rot is a major cause of uprooted trees. Root rot can often be detected in hard woods by open butt rot wounds at the ground line. In conifers, it is indicated by excessive casting of exterior needles, yellowing, abnormally short needles and internodes, rounding off of the upper crown, and fungus fruiting structures in the cambium layer at the root crown (ground level or on the trunk of the tree).
- D. Root rot may also cause leaning trees.

Defective roots are particularly dangerous because of the risk they pose. ALL OR PART OF THE ENTIRE TREE MAY FALL, CAUSING SERIOUS INJURY TO PEOPLE OR DAMAGE TO PROPERTY. All or part of the entire tree may fall, causing injury to people or damage to property, particularly during high winds.

## 13. Leaning Trees

Trees that lean toward utility facilities can be hazardous when there is a potential for failure of either the roots, butt or bole, that results in contact with and/or damage to utility equipment. Many leaning trees are caused by outside factors (wind, soil conditions, etc.) which loosen or break the roots. Construction activities which sever roots or strike tree butts and boles also may cause trees to lean, as does the impact of falling trees, either natural or man caused. Humps and soil mounding on the opposite side of the lean direction are indicators of broken or loosened tree roots. If corrective thinning will result in additional lean potential, consideration should be-given to removal.

A leaning tree can be more hazardous because of the presence of open fire wounds or cankers, especially if accompanied by rot. Wounds facing toward or directly opposite the direction of the lean tend to have the greatest weakening effect.

## 14.1 Heart Rot

Heart rot/butt rot is a problem in mature and over-mature trees and frequently is an underlying cause of failure. In hardwoods, failures occur often in branches or in crotches rather than in the bole, but potential bole failures should not be overlooked.

Basal fire scars and mechanical injury to the bole are a major entry point for butt and heart rot. Species especially susceptible to this kind of defect are non-resinous conifers such as white fir. When examining these species, it is very important that fire scars are checked for the presence and amount of decay.

### 14.1 Recognizing Heart Rot

- A. Open wounds showing visible rot.
- B. Old wounds that have partially or fully healed over.
- C. Conks anywhere on the bole of the tree
- D. Hollow trunks detected by rapping on the tree trunk or by use of an increment borer.
- E. Decreasing crown vigor.
- F. Cracks or splits not caused by lightning; and
- G. Swelling or cankers on the bole.

### 14.2 Degree of Hazard from Heart Rot or Butt Rot

- A. Amount of radial wood remaining.
- B. Basic form of the tree relative to weight distribution.
- C. Rate of growth vs. the loss of strength due to decay.
- D. Orientation to the prevailing winds and the amount of canopy the tree has.
- E. Other contributing factors (cracks, sap rot, leaning, root rot).

## 15. Trunk Deformities

Deformities can weaken the bole and increase the chance of breakage at the point of deformity. Deformations are caused by the following:

### 15.1 Dwarf Mistletoe Cankers

Swellings of the bole resulting from infection by dwarf-mistletoe are quite prevalent on both white and red firs. When these swellings first begin there is minimal weakening of the trunk. As the cambium in the oldest part of the swelling dies, structural weakening becomes more prevalent. Breakage at the canker location is likely to occur when the width of the dead face approaches half the circumference of these swellings. Trees in this condition should be abated. Cankers or otherwise flattened areas oriented to the windward or to the leeward side of the bole are more likely to fail than similar areas oriented parallel to the direction of strong winds.

Open dwarf-mistletoe cankers are sometimes found on the lower trunks of Ponderosa and Jeffrey pines, but resin infiltration prevents the wood from decaying. Therefore, such mistletoe cankers on these species have a lower likelihood of being hazardous, but should still be closely evaluated since some structural weakness might be possible.

Cankers, thought to result from infection by rust fungi, occur in pines. The wood around these cankers may remain sound for years, but trees with such cankers could eventually develop structural weaknesses, particularly when the depression is deep and located sixteen feet or more above the base of the tree.



## **15.2 Man Caused Deformities**

Flattening of the tree trunk may be caused by the attachment of pieces of wood or steel members to trees to serve as cross arms for utility lines or for use as building supports. Fastening wires and cables around the trunk for various purposes deforms and weakens the tree. The guidelines for cankers and rusts can be used for evaluating risk.

## **15.3 Forked Trees**

Forked trees with tight v-shaped crotches are susceptible to splitting and breaking off at the crotch. This problem is prevalent mostly in mature trees in which the members of the fork have grown long and heavy. Hardwoods are more susceptible to this type of failure than conifers because of their wide, spreading crown which results in strong leverage at the crotch and other points of potential weakness.

The inspector should scrutinize forked trees carefully for signs of visible open cracks and splits, included bark, or for callus ridges outlining and closing older cracks. He should also look closely for signs of rot which follow such splits. Even in the absence of splits, rot is sometimes present in crotches to a degree sufficient to render the tree hazardous.

## **15.4 Combination Defects**

When more than one defect or condition influencing the degree of hazard is present in a tree, it is said to have a combination or multiple defects. Although single defects can be severe enough to require abatement, usually a combination of factors or a heightened level of severity of a particular defect or set of defects is more likely to trigger a decision to abate the condition. Therefore, the inspector must always look at the overall situation.

# **16. Defective Limbs**

Limb failure can occur when the combined forces exerted on the limb exceed the strength of the limb at its weakest point. These forces include the weight of the limb itself, as well as the forces imposed by wind, snow, ice and rain such that when the tree is re-examined following winter conditions, limb configuration and relative strength could be altered. Limb failures also occur as a result of the presence of defects such as: decay, cracks, splits and breaks, holes from animals, birds (mostly woodpeckers) or insect activities and compression defect.

Hardwoods as a group are more susceptible to limb failures than are conifers because of basic differences in crown form, which in the hardwoods give rise to narrow, structurally weak crotches and also to long branches which become heavily weighted at the extremities. There is a tendency in hardwoods for trunk rot to extend into major limbs and increase the potential for limb failures. In this regard true oaks, eucalyptus and sycamore merit special attention.

## **16.1 Size of Limbs**

A degree of hazard control can be achieved by removal of defective limbs larger than a specified diameter and length. The detailed guidelines which follow are based on this concept.

## **16.2 Location of Limbs**

A basic principle in tree hazard control is that a potential hazard exists only if there is a likelihood of injury or damage should a tree, or part of a tree, fail. Before a situation can be said to be potentially hazardous from tree limbs, two basic elements must be present: (a) defective limbs larger than a specified diameter and length (see 16.5), and (b) limbs located so that in falling they have a likelihood of striking power lines.



### **16.3 Relative Durability of Wood**

Dead limbs of most conifers will remain attached for a relatively long time in a safe condition because of their resinous character which renders the limbs resistant to decay. The exception to this exists with the dead wood of the true fir which, due to its non-resinous character, can be expected to decay faster than the dead limbs of other coniferous species. Consequently, the true fir and other conifers should be inspected with these facts in mind.

Dead limbs of hardwoods generally decay faster than do similar limbs in conifers. This faster rate of decay in turn means more rapid development of defective limbs in hardwoods than in conifers.

### **16.4 Weather Conditions**

Weather conditions have an important influence on the number of dead and defective limbs in a tree. Limbs which have withstood snow and ice loads the previous winter are less likely to break and fall later during the milder weather. Many weak and defective limbs are eliminated under snow and ice conditions. This natural testing and elimination of defective and weak limbs does not occur in trees below the snowline: consequently, the limb hazard potential can be greater in such areas.

### **16.5 Guidelines for Dead Limb Hazard Control**

- A. Conifers - Remove dead tops and limbs when:
  - 1. Defects and weakness exist as a result of decay, breaking, cracking, splitting, wood pecker holes or insect activity.
  - 2. Limb size exceeds 3 inches in diameter and 6 feet in length.
- B. Hardwood - [Except true oak and madrone]
  - 1. Remove all dead tops and limbs the same as for conifers.
- C. True oak and madrone
  - 1. Remove all dead tops and limbs, when limb size exceeds 2 inches in diameter and 4 feet in length.

## **17. Top Defects**

### **17.1 Dead Tops**

Dead tops on living conifers, sometimes called "spike tops", may be hazardous in some cases. Experience indicates that spike tops in Sierra redwood, incense cedar, coast redwood, pines and Douglas fir can be considered non hazardous if not structurally weakened by defects such as bad cracks, splits or woodpecker holes, and also, if without bark, which could loosen and fall.

Dead tops in both White and California red firs must be considered hazardous, and such tops should be removed as soon as possible. Because of the non-resinous nature of the wood of these species, it is relatively non-durable and quite susceptible to attack and consequent weakening by decay fungi.

## **17.2 Broken Out Tops and Volunteer Tops**

Conifers with tops that have broken out are not considered to be hazardous, even though there may be rot present below the break and a short length of decayed trunk still remains. Volunteer tops that form following the loss of tops in conifers are not considered hazardous so long as such tops remain live. This is true whether such tops are single or multiple. When dead, such tops should be considered a hazard and should be removed.

## **18. Other Considerations**

### **18.1 Thick Crown Growth**

Crowns with a heavy, thick growth of live limbs and branches may be susceptible to limb failure (as well as bole and root failure) from winds. Corrective pruning may be justified to prevent such failures

### **18.2 Structure**

The overall structure of many hardwoods, as well as some conifers, frequently includes a combination of potentially weak crotches and heavy limbs which render the limbs susceptible to failure at the crotches. Sometimes open cracks or callus ridges may be present as evidence of partial failure, but frequently no such evidence is visible. Through observation and experience, the inspector should come to recognize such potentially hazardous conditions. General pruning to reduce limb and crown weight should be considered for control.

## **19. Techniques and Aids**

The inspector should develop certain habits when checking for hazardous trees. Few defects are located at eye-level; therefore, he/she must quickly scan the entire tree from the soil surrounding it to the top and the branches. Many conifers are over 100 feet tall, making naked eye inspection of the top and upper branches somewhat difficult, thus binoculars should be part of his or her equipment.

If any indication is noted of butt, heart or sapwood rot in the lower trunk, the extent of damage should be estimated. A quick, rough estimate can be made by tapping the trunk with an ax handle, night stick, or other similar instrument to determine whether or not it sounds hollow. An increment borer may also be used.

He/she should check the orientation of conks, flat areas, splits, crotches and other deformities in relation to the direction of the power line from the tree and to the prevailing wind direction. If the tree, or a part thereof, does not require abatement the inspector should go on to the next tree.

When a tree is found which needs treatment, it must be properly identified for those who will do the work and for follow-up inspection. The tree should be marked with flagging, timber-marking paint or other means. It should be located by map, sketch, or bearing and distance from an identifiable object. In some cases, one or more photographs would be helpful.

An inspector should develop the habit of looking to both sides and to the rear as well as ahead. Many defective trees will be hidden from one direction but not from other directions. Similarly, many defects can only be seen from one or two sides of the tree.

Finally, in particularly in dense stands, the inspector should make occasional side trips outside the cleared right-of-way. This is particularly true in dense conifer stands. The screening vegetation along the edges of the right-of-way will often hide evidence of defects in trees.